

Appendix C

Vehicle, Employee, and Worker Trip Estimates for Remedial Activities

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Worker Vehicle and Soil Hauling Trip Estimates for Remedial Activities

Introduction

This appendix describes the three-step methodology used to estimate the number of construction equipment, workers, and worker vehicles (step one); the number of worker commute and soil haul truck trips (step two); and assignment of the daily trips throughout the work day (step three). To derive these estimates, assumptions have been developed in terms of the type of equipment necessary to perform the various tasks proposed in the ROD/RAP. This estimate is only for peak daily activity and thus overestimates the average daily trips associated with the project.

Vehicle trips from ROD/RAP activities would be primarily associated with worker commute trips and with hauling of contaminated soils off-site, excavation and off-site disposal, and on-site management. As shown on the approximate schedule provided in the ROD/RAP, the BRAC actions and HWRP actions would occur at different times. Consequently, vehicle trips for the actions undertaken by each program would not occur simultaneously.

It should be noted that implementation of the HWRP was evaluated in the 1998 HWRP EIR/EIS. Therefore, to the extent that on-site management of residual contamination overlaps with work pursuant to the HWRP, the vehicle estimates developed for this SEIR may be to some extent, be accounted for in the 1998 analysis.

It is also unlikely that excavation and disposal work would occur at all sites at the same time. Concurrent work at a majority of the sites would be inefficient for a contractor and would likely be limited by the inability of a contractor to provide the amount of equipment required. Two or more crews may be required to work simultaneously in the coastal salt marsh area in order to complete the remedial activities within the five-month non-nesting season for the California clapper rail. This is assumed to represent the peak level of work activity for excavation and off-site disposal.

Step One

The type and number of construction vehicles needed for remediation activity were estimated. For this project, a maximum of eight scrapers or excavators and two loaders were presumed to be needed for earthmoving and haul truck loading at any one time. Scrapers or excavators were assumed to be the primary type of equipment used to both excavate and move soil on-site. Actual equipment may vary but more than 10 heavy pieces of construction equipment are not presumed to be operated on any one day. The use of more equipment for this project could result in congestion problems because the vehicles would start to interfere with each other. A maximum of two loaders was presumed to fill trucks for either on-site soil movement or off-site soil hauling.

In addition to the scrapers/excavators and loaders, eight on-site dump trucks were assumed to be needed to move soil on-site, for fuel supply, for wetting down dry soil, for maintenance, and other on-site activity. A total of 18 construction vehicles are assumed to be used on-site at the peak of remedial activity.

An estimated eight 40 cubic yard dump trucks were presumed to support the off-site hauling activity. Eight dump trucks were presumed to allow off-site hauling of up to 640 cubic yards per day (presuming two trips/day as noted below) to support overall schedules.

Thus, a total of 26 vehicles/equipment were presumed as the estimate of potential peak activity. The likely total at any one time may be less than this estimate. The number of peak employees was estimated by assuming one employee per construction vehicle/equipment at peak, for a total of 26 employees.

Step Two

Each worker was presumed to arrive and exit the work site in his or her own personal vehicle. Some workers may commute together, but the assumption of individual vehicles is conservative. Fifty-two daily commute trips were estimated for period of peak activity on-site: 26 trips during the morning commute peak hours and 26 trips during the evening commute peak hours. In addition, 26 additional trips during the lunch hour were presumed, assuming that half of the worker vehicles are used to go off-site for lunch or to run errands.

As noted above, a total of 8 large dump trucks are presumed to be in use to haul soil off to appropriate disposal sites at the point of peak activity. The characterization of the material will determine the requisite disposal site. As a conservative estimate, it was presumed that 90 percent of the soil is hauled to the Altamont Landfill in Alameda County; 5 percent to the Redwood Sanitary Landfill in Novato; and 5 percent to the Kettleman Hills Landfill in Kettleman City. Each dump truck was assumed to make two runs per day, resulting in a total of 32 haul trips per day at peak.

Based on these estimates, at times of peak remedial activity, the estimated total trips would be 110 trips per day.

Step Three

In step three, the daily worker and soil haul trips were assigned throughout the day. It is assumed that travel would mostly be north and south along Highway 101 and east and west on Highway 37, except for local commute and lunch trips within Novato.

As noted above, 26 worker vehicle trips are assumed to occur during the morning commute peak hours and 26 worker vehicle trips during the evening commute peak hours. Some of these trips may be in the peak direction on Highway 101 (southbound in the morning and northbound in the evening). The 26 trips during the lunch hour would be off-commute peak hour trips.

As noted above, at the peak level of remedial activity, offsite transport of soil could generate an estimated 32 trips per day. It was assumed that most morning truck trips from the site would not occur during the morning peak commute because trucks are presumed to be loaded on-site in the morning and hauled out during the day; thus, 25 percent (2 trips) of the morning haul (outbound) trips were assumed to occur during the morning commute peak hours. Afternoon return haul trips could occur during the evening peak period; thus 75 percent (6 trips) of the inbound trips were presumed to occur during evening peak commute hours. The remainder of the morning and afternoon truck trips were assumed to occur at off-commute peak hours.

Thus, it was estimated that, at peak level of remedial activity, a total of 28 trips would occur during morning commute peak hours and 32 trips would occur during afternoon commute peak hours.